ANT/MCL/05

ANTARCTIC

1960

Windmill Is.

Warrington Is 11/2/60.

Rock is fairly uniform granite c very slight banding due to thin streaks of biot. Rock is felsp. qtz, c small amt of biot, and sm ed garnets. (Spec A) In places, esp. NE corner of island, are very sharp edged veins, both qtz & ocs, banding, made of cg felsp up to ½", fawn colored felsp & biot. Some have sl. conc. of biot in country along the margins.

Strike is roughly 340° mag 70°W
Sum 036° mag at 1500.

A thin straight vein of sd-bearing aplite c some sd garnets, 6" wide, c cg qtz + felsp, one with undl along each margin and sending thin stringers into aplite.

cw

photo of typical rock, at NE corner of island, showing cg. veins.

A good view at pt. 5 looking, but dipping 60°-70° E, much of island covered by moraine, boulders up to 3-4 ft. across, a few large, many of the boulders split & shattered up by ice-jam into thin plates of small size.

Some cg. staining in moss. In one spot was quite a lot of veins, quite a lot of staining. Veins of red mg. garnet, sharp but irreg. edged against gneiss.

Several valleys running across and adjoining S. many apparent shears. — Dunn. H. (mag).

Albert Co. 11/2/60

Dist. is mg. with, c
felsen. produced by small dikes
trends N 30° mag 85° W.
Phen. of wh. flaps 1" long
are scattered through it, also
aligned. In one place,
felsen. are common + such is
dk. lighter colored.
Small dist. rich lenses an
inch or two wide & up to a
foot long are fairly comm
part to felsen.
Rock generally is rather
uniform.
Dist. rich patches,
10' wide & 20-30' long,
very irreg, & cut by numerous
c-g felsp, qtz veins + mg grn
veins, some ± magnetite.
Most of rk is lt-grn dist, but +

Some consist of fine mixed Brick aggregate closely packed in matrix of feldspar by spec. & by special int. ig. rock, (spec A) & Brick with rock from Ig. lava (spec B). Cutting also NNE across fabr. of country are straight acid-ign. coarse-grained, pale reddish, sharp-edged masses of feldspar & small grains of basalt (spec C) often dipping vert (nearly) or almost horizontally.

Robinson Ridge 11/2/60

Grains at S.W. corner is strongly banded, alternate bands of Qz. (kept some dirt and dust with (last slip)), some almost pure Qz.
Bands ½" & 2" wide mostly well defined, no grading. Qz and Kspd to another. (Spec A)
Some Kspd with Qz bands are moderately sheared.
The grains shows small folds, but generally strikes N20°W, dip 60°W. (Sun N5W° (mag) at 1555.
Advancing the drift, the grading is almost homog. for 10 ft.
for abt 30 ft. from contact the grains is heavily intr. by veins of Qz. grain, similar to the gran gn. on Washington Dr, and small amt of Kspd. (Spec B)

11

Veins are irreg. in dimension
but edges are sharp. Veins
+ masses of brittle ch. p/s
dior. also veins.

Folm. in the p/s dior is due
to small elongate concentrations
of biot flakes up to 1" long.
Weathered plan. of flakes
abt 1" long + ½" wide. Also
part this folm, which is
N34°E (mag) vert.
Lenses of fg. biot felsic
rock, abt 1/4" long and a couple of inches
wide, also part. the folm.

Features of N side sim, but here is a
peg, and also a body of amphibolite
in the gneisses.

Thompson Island.
17/2/60.

Cairn on Island. Visited by

P.G.L. 19/1/56
Russian 9/3/56
Dep Surv I 18/3/56 (9 men)

Geologist
C.R. LEWIS, USGS

Russian B.T. KOPT

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Rock is grey Quartzite, with a poorly defined foln. N165mag
Row (remnants of a limestone (Stromatolite) Spec A.
Rock consists of, felsp, Quartz and commonly Epidote in which case the felsp is rather saussuritised

15

small lg. bisk felsp incl
occur in places. Ord. dens
are a few thick (one inch)
bisk-rich lg. schlieren.
Near top of strat is a
sharp line of disruption,
very straight, but normal
soil and rock pool in bisk,
but otherwise textually
same.

Cutting flow are numerous
peg veins. most are straight,
fair sided + shapeless, and
a couple of inches to a foot
wide. Consist of dirty white
felsp, qtz, some bisk + aug
mag. Grade. In places they
swell into irreg. w. eg.
masses. Largest 4' & 5 across
& fault up to 9" qtz, big
bisk plates, felsp commonly
altered. In some, felsp
very common. (Spec B)

12

Generally in big mouse, Pt is rel. from fld.
Edges sharp of leg bands mostly sharp but in places there is a tendency to gradation, the granules being rather coarse & irreg. Cuticle even in these areas, edge of pig still sharp.

Cuticle thin & pliable, mostly lies along its own length, a couple of places a slight bending is apparent due to contr. of what bands are uniform in width with ill. gradation. Ret. tube hyaline.

No abnormal r. a. counts in any such tubes.

Island at end of Bolivar Camp. 12/29/60.

Rock is uniform massive gabbro, & long layers & lenses of coarse pegmatite & a few small patches of rock. Some a couple of inches across.

Cut pitching SW at west end.

Several bands of shearing one of two dirs. N 210° 25° W (mag) and N 115°, V (mag) Some places. Not zones marked only by films of gouge but some zones a couple of ft wide & also parts of the middle shear, exact one strg. One small thin qtz filled vein.

Remain center of Isl of island.

Island flat, thin and crust appears pale from the air — no acid rain visible,

Some water on top of land, incl. boulders of red or purple indurated mat (algae).

Herring Ds. 12/2/60.

Rocks are granite gn. (spec E) ~~Granite~~ ~~gn.~~ ~~Lithe~~ ~~Warrington~~ (spec VA) and dark fg felsp biot gneiss. Latter has good foln N 50° E0 N (mag) on S side of island. Most of it is uniform but in places it has v. beg. cg masses a few inches in extent, of felspic some biot. Some cont. also a good deal of green actinolite, and small masses of this occur also in the gneiss. A few coarser veins. Some of the gneiss has the biot conc. in small pea sized blebs & mainly fg felsp between blebs close packed.

A lighter coloured variety is less biot, and small elongate bunches of white or very pale pink felsp. has a similar plunging N 2 W 5 (mag) at 70°.

22 S:

This vein also contains small masses of pink granite (spec B) up to a foot across, irreg in shape, but with sharp edges. Garnet is abundant, & also occurs as small inclusions in grains.

In quan. qu. vein wherever it is seen are bands of dark chloritic coating-rock (spec C). Some of these have pale green qtz (spec), and a vein of white qtz grades abruptly into the same pale green qtz (specs.) Most of the chlorite rock has very little ferric, but through it are masses of mg. foliated rock, lighter colored, without the qtz, and & mostly bast. Garnet. of two types is abundant, but with in dim general attitude (mid foln) is N30°E 80°N (mag.) Several masses (small) of pink qtz also occur, and in these

2

In parts the rock are here
folded. phen. up to a couple of ins
long.

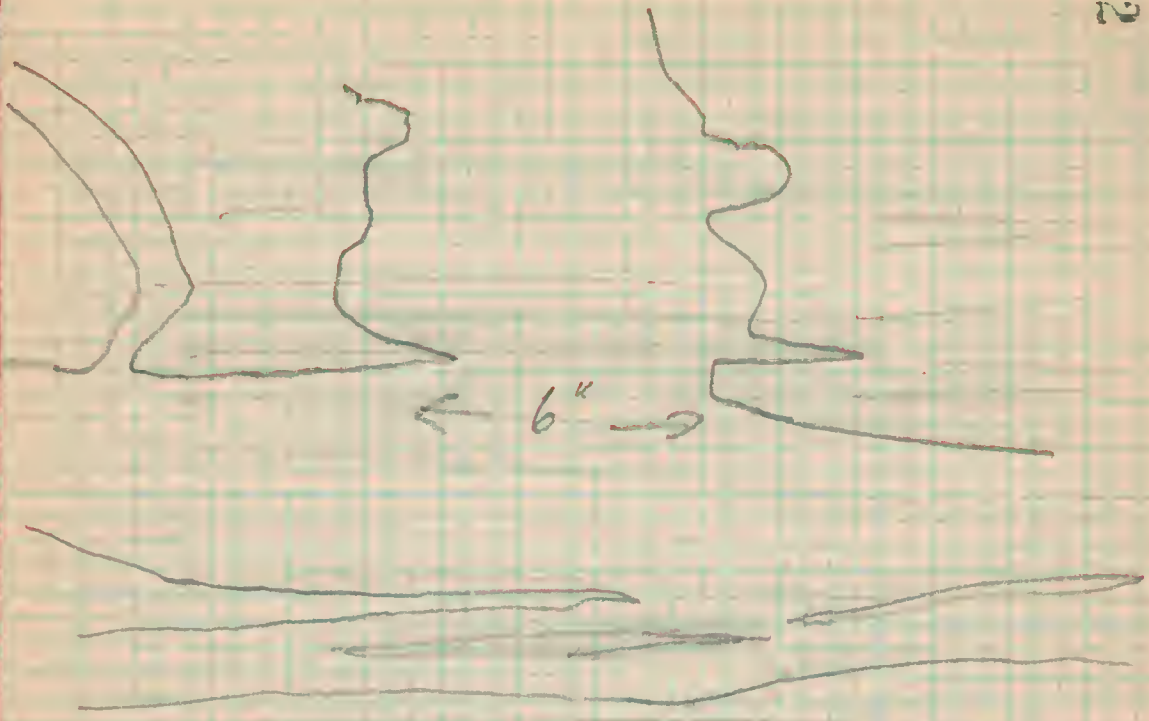
In one place in this dam
rock covering abt 10 sq. ft
are veins of felsp. pyrox.
Dam is common along the
southern edge of the stand
but most of it has almost
colourless or pale blue qtz.

The gneiss is an even-grain
of granite, sharp edged, c
qtz network through felsp. (large)
crystals. (Spec D.) Dam varies
from one to 5 A wide.

Hastie A.S.
13/2/60.

Most common rock is grey biot. granite mg. (spec A), & dykes of fg. biot felsp rock ("hyds"). And places these dykes on beds are several feet wide, and show a foam. banding some fg. and biot other biot. spec D. Thin lenticular veins of fg. felsp. in places rock beds have irreg. and felsp veins through them, up to a few inches wide, anastomosing. Red garn is common in the rock, but generally does not occur in the felsp, only on edge of felsp veins (spec B) Block of garn bearing rock in garn west rock.
On W W side of is a sharp edged dyke of light coloured fg. garn. granite, 4 ft wide, cuts across banding of hyds and biot gn (spec C)

3




a few parts per million

This is intersected by a dyke of pg. consisting of fel. felsp (like the felsp in the gran biot gran) & some biot plate. Edge also shows dyke is 2ft wide, and sends tongues into gran biot rock.
Gran biot rock = fels is bds & chin gran, & wide. Small acute folds are common. Biot gran. forms out into the gran bds (or folds?)
Description of biot gran to biot fels rocks. Generally same throughout, in many cases no fels, but in places forms bands, sharp bed through the fels. In places (by cut across banding of fels (p 32) some long thin straight pcs. added as felsp pg. veins which are inch or 2 wide, cut gran & fels.

Str. of rocks at cliff is S 10 E (mag) 20° W.

On this the bedding planes are well, although stylolited.

Some felsite veins, some veinlets cross bedding planes.

On this the rock takes on a pink porphyritic texture, but still keeps the laminated bands.

Some bands of flinty appear felsite. The hard small grains in felsite are quartz.

Some other dykes of gran. grain also seen.

A dyke of dolerite (Spec E) 4 ft. wide, and parallel to the bedding. A dark fine grained edge

straight and sharp.

Zephyrite → Oache &
14-1-60.

Occurs almost fully grown but not affixed. Seems to have been on Quartz abt 10 ft long + 3" W. Wall of it mostly covered in black Mn ox. Zephyrite & scattered honey coloured epidesite is most common. Some black appears to be mainly clay coloring of the epidesite, but it is not absolute.

Wall rock seems to be coming in thru ore & small qty. had dropped in the zephyrite. Small qty white & one qty rhod. fragment.

Ore minerals seem highly variable, from almost pure galena in one slot & most pure

cont. p49.

Clarke D.S. 14/2/60.

Rocks are migmatites, consisting of fine light, schistose (?) layers alternating with (structured) of leuco + meso, up to 3-4 ins. wide, more often than 1 inch. Some bands are to not diffn. (Fig. A) but many are to be injection. Quartz veins, some of other coarser, a few of up to wide, one 2ft thick in the N. Some of the lens do not have acid layers, are more or less uniform. Contact gneiss (Fig. B) on both sides the old Dyke are pinched out and faulted by a dyke. Thin layers of mylonite, often near these, parallel banding.

Some of the folds

lines of wh. [illegible] (up to [illegible] mm.)
Generally following banding but can be seen in pairs, one [illegible] of the 50 [illegible] cross-section width, [illegible] shaft, parts and [illegible] [illegible] (abcc) [illegible] roads in [illegible] patches. [illegible] big [illegible] [illegible] [illegible]

Palaeomagnetic Specimens,
Redcar. 15/2/60.

Spec 1.
Sun at 1425.
Horiz. + vert. marked.

Spec 2. Sun at 1435
Horiz marked.

Spec 3.
Sun at 1450
Horiz marked.

(cont. from p. 5)

granite and which have
approximately-north contact of
basalt. Gabbro is
strongly jointed into minor
folds.

Ardley Fm. 15/2/60

Str of rocks N20, 80°W max.
Rock is porphyritic (plag-A)
& pale blue phen. upto 1" long
± ½" wide, forming 5-10% of
rock. Show poor alignment. Biotite tends to form small elongate patches along in some direc, some bigger. In places, fissile almost absent.

A few mid, round or slightly elongate, of blade. Unexplained, only a few ms. across.

General absence of rock fragments, chem. mafic affinities.

Toddos. 15/2/60.

Rock is pink porph. granite, c. pink felsphen 1" long, up to ½" wide, forming abt 20% of rock, in matrix of qtz, felspar & (Spec A). A few small patches pegm in gen'l.

In a few places rock is dom felsphen, but much fewer (< 5%) and in a few grey material gen'l is pegm, and stringers of pegm gran. run into grey rock. One large patch 30 ft long x 15 ft wide, longest dim E-W, appears on hill. It has a vein of felsp, musc, peg through it, biggest in vert, but cont. into gran as a thin dyke. Vein. Spec of light rock. (Spec B)

OK
CC

Also some light colored
[illegible] Jasper (spec C)
[illegible] of Jasper with flakes of
flesh. Then is E-W (mag) vert.
On each side of it are
patches of pinkish grey
C. Jasper (flesh flakes)
and of a brown rock
with flesh & faint grain
like this & some of the ~~this~~
(~~this~~).
Jasper types all have
sharp edges one against
the other, & mornings of
chilling.
A few very thin ~~fine~~
flakes & a couple of in
cross, and ~~red~~ flakes, like
of some of those and to the
Leather knife.

Jasper flakes the flakes taken
in next of the types of jasper
knife & similar. Of fine and

independent of the nature of the matter.

Sterile of the Gram positive rods D.C.T.

Bellona. 16/2/00.

Rocks are very like Clarke Bay but higher proportion of coral material.
Strike N340° mag, dip 10° E.

Several basalt dykes, straight, sharp edged (white).
Most are in ultramedium.
One measured N050° V.
Palaeozoic specs. collected from this.
Dykes are weathered than phases present in same area.
Dyke 4 strike E-W dip 10° S.
Bedding strike 310° T.
Fauna of area, (BHS) which have come from, mostly E.C.S. little present NW of S. small pockets of basal sand rocks & shale.

Pokeroo Lake
(1) Horiz. marked + true bearings, 55° to 56°. May
(2) Horiz. marked + bearings
to Horiz. marked bearings.

Strike of dike (from auto compass and direct A. G. Fox) is 310° T.

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Profusion of quartz veins on hills, much higher than on shores.

Wilkes. 17/2/60.

South of row of four original Jamesway huts East of main station is outcrop of banded biot. schist & some acid veins and small veins and irreg. patches of pink rhodonite (spec), which is most conc. in the acid veins. Rocks are strongly folded, and there are several veins of biot + some of iron stained qtz with rock. Pyrite specks occur in the qtz + in some of the acid veins.

Spec. of banded biot schist, & those with rhod. and horizontals marked.

8
60

Wilkes 18/4/60.

Strike at west end of peninsula is N160 mag, with dip generally 60–80° E. (mag). Some dips as low as horizontal but folded in places.

A vein of peg c much muscovite ~ ranging from 3–4" to 1½ ft thick; along edges, pleochroic and cuts both peg. & mig. Appears to occupy a fault because mig is dragged on either side. Fault right handed. Lim. peg. filled faults seen in several other places along N side of peninsula.

A folded zone, mainly synclinal, occurs along N side of limb. Syncline otherwise, but a rough zone (flat dipping) about 20 ft wide. Entire zone appears about 50 ft wide.

dip of 60° on either side, ser. of approx 1170'.

A well developed shear moraine
one in the cliffs behind island. (Photo)
drain lower part is dark colored.
Water running down face at time.
Extensive moraine along foot,
boulders up to 6' but not less than
1 ft, and good deal of sand.
Rock types incl. porph. fine gr.
(rhyo.) most common, not seen on
island. Some lt. hyals. grd
volcanics, lt. (rhyo.), also purple,
and a few intergrades of breccias of
pillow lava & ? fossil algae (could
also be nodules of mud pellets.)
Granite like orig. lt. gr. on
island is rare. Also blocks of hyalite.
Top and foot of cliff is angular
but on flat area is rounded as
though wave worked.

(cont) 1/2/60.

Ivanoff Head

Fine sandy gravel, shell grav has sharp edged lenses of light with light, usually rather elongate. Kind of banding of layers. Many of these lenses are homogeneous without banding or acid veins but contain pebbles similar to pebbles of light granite

Caught generally more in the veins, but red beans pegues along some layers, within the granite & in the veins, with some limonite the more common in the veins. On southern side. Pinkish ash, acid veins cuts sharply at 45° angles across the main vertical, 1/4" wide.

(cont p. 68)

Dec 3rd 1924.

Rocks at west end of biggest island are granite, not common in Andaman mg. with pink felsp plates (spec A) a few small bl. but rich inclusions sharp edged and some veg. small veins + masses of g. pink peg. & much felsp, some qtz & bl. plates.

Next gorge is a red felsite rock, made up of brick red felsp in a dark matrix, small bl. (spec B) On this beach rock generally is rather a felsite (spec C) than rock further west. It appears to be intrusive mg. by a mass of reddish mg granite, & occas shows a flow (spec D). Coast is steep, no sign of shelving mg. red rock probably built, but not definite.

2

Newport, (cont'd) 20/2/60.

Another rock type described and of island more valuable for path. Quite gr[illegible] common to... Region of linking between different types where in the distrib. Each of 2 first point is an estimated mass of fine granite (spec E), which also has brief. foot-slopes.
Inclusions in hist. gran vary from fg. hist. rich rock through stages of granism, to such a granitic appearance that fine grained. Edges show. Some large ones (up to 10 ft) show varying mineralogy. Also vein. made up of mg. hist. which have thorough + thorn slashy + par-thesy felsp, which bestows grades into hist gran. like the enclosing gran. Outside edges of inclusions edges are often stained brown with

Ophite. Dip on the bridge has a very poor foln N010(mag) ; vert. Nor highest point it is better defined N020°, 80W(mag). A few white qtz veins + some shears & much sp. d. striking abt NE. (true)

Slabs are well polished and many show scratches, showing diren. of ice was E(mag) - by fall of scratches. Pieces of red mt moraine occur in places, almost to summit of island.

From air, other islands of group appear identical to each. Jointing is generally widely spaced.

Water sample (two bottles) collected from northernmost part of island.

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